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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/332,760	06/14/1999	DOUGLAS CLAFFEY		3302

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EXAMINER

JONES, HUGH M

ART UNIT PAPER NUMBER

2123

DATE MAILED: 10/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/332,760

Applicant(s)
Claffey et al.

Examiner
Hugh Jones

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jun 28, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 and 30-35 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 and 30-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Introduction

1. Claims 1-26, 30-35 of U. S. Application 09/332,760 filed on 06-14-1999, are presented for examination.

Specification

2. The amendment filed 6/28/2002 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Applicants have deleted the incorporation by reference of Satellite Tool Kit systems analysis program, cert. Nos. TX4-819-009, TX4-819-010 and TX4-819-011. This is new matter in so far as it changes the scope of the specification and therefore the scope of the claims.

Information Disclosure Statement

3. The following non-patent literature reference appears listed in the specification (page 9, lines 21-23): Satellite Took (sic) Kit systems analysis program, cert. Nos. TX4-819-009, TX4-819-010 and TX4-819-011.

- The text accompanying the reference provides a short description which indicates that the listed reference, *which Applicants had attempted to incorporate and now attempt to unincorporate*, is very relevant and appears to be *essential* to the instant invention and claims, and

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therefore the applicant should provide the office with copies of the references so that they may further be evaluated for relevance.

- the Declaration refers to STK manuals (versions 3.0 and 4.0.5) in support of arguments directed at traversing 112(1) rejections.

- "Sensor Obscuration Tool (STK/Advanced VO)".

- Applicants have not provided sufficient detail to make and/or use the invention, as discussed in the 112 rejections. The Examiner assumes that the missing details were disclosed in the incorporated reference.

- Applicant is **reminded** of their duty to disclose all information material to the patentability of the application. See 37 C.F.R. 1.56 Duty to disclose information material to patentability.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. **Claims 19-22 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either an asserted utility or a well established utility.**

6. An invention which is eligible for patenting under 35 U.S.C. § 101 is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. *The fundamental test for patent eligibility is thus to determine*

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whether the claimed invention produces a “useful, concrete and tangible result.” The test for practical application as applied by the examiner involves the determination of the following factors:

(1) “Useful” - The Supreme Court in *Diamond v. Diehr* requires that the examiner look at the claimed invention as a whole and compare any asserted utility with the claimed invention to determine whether the asserted utility is accomplished. Applying utility case law the examiner will note that:

(a) the utility need not be expressly recited in the claims, rather it may be inferred.

(b) if the utility is not asserted in the written description, then it must be well established.

(2) “Tangible” - Applying *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical construct claimed, such as a disembodied data structure and method of making it. If so, the claim involves no more than a manipulation of an abstract idea and therefore, is nonstatutory under 35 U.S.C. § 101. In *Warmerdam* the abstract idea of a data structure became capable of producing a useful result when it was fixed in a tangible medium which enabled its functionality to be realized.

(3) “Concrete” - Another consideration is whether the invention produces a “concrete” result. Usually, this question arises when a result cannot be assured. An appropriate rejection

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under 35 U.S.C. § 101 should be accompanied by a lack of enablement rejection, because the invention cannot operate as intended without undue experimentation.

7. The Examiner respectfully submits, under current PTO practice, that claims 19-22 do not recite a *either a tangible or a concrete result*. It is noted that code (i.e., a computer software program) does not do anything per se (*which is the defect in claims 19-22*). Instead, it is the code stored on a computer that, *when executed*, instructs the computer to perform various functions. 8.

The following claim is a generic example of a proper computer program product claim;

A computer program product embodied on a computer-readable medium and comprising code *that, when executed*, causes a computer to perform the following:

Function A

Function B

Function C, etc...

It is suggested that Applicants rephrase the preamble to recite "...computer program product" or "Signal bearing medium" *"embodying a program of instructions that when executed by the machine cause the machine to perform..."* or some similar phraseology.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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10. Claims 1-26 and 30-35 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

- Applicants have only disclosed generalities of the claimed invention. There is no detailed disclosure relating to any of the claim limitations. It appears a reader would have to reinvent the invention.

- in order to facilitate compact prosecution of the instant application, the Examiner suggest that Applicants supply their computer code in any response to this Official Office Action so that the Examiner can determine without question that Applicants had possession of the invention at the time the application was filed.

11. Claims 1-26 and 30-35 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

- Applicants have only disclosed generalities of the claimed invention. There is no detailed disclosure relating to any of the claim limitations. It appears that a reader would have to reinvent the invention in so far as undo experimentation would be required to make and/or use the invention.

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- in order to facilitate compact prosecution of the instant application, the Examiner suggest that Applicants supply their computer code in any response to this Official Office Action.

Claim Interpretations

12. The broadest reasonable interpretation has been given to the claims. The Examiner interprets that the application of image analysis to satellite sensor obscuration refers to intended use for the image analysis. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). This interpretation is based on Applicant's arguments (lines 4-8, page 5 - Declaration), wherein Applicants state:

"I observe that the '489 patent discloses a three-dimensional visualization wherein the general concept of how to carry out object selection is taught (albeit for different purposes than in the '760 application). See the '489 patent at col. 3, lines 54-59."

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Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

14. A person shall be entitled to a patent unless -

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (f) he did not himself invent the subject matter sought to be patented.

15. Claims 1-26 and 30-35 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by STK version 3.0 or STK version 4.0.5 or "Sensor Obscuration Tool (STK/Advanced VO)".

Applicants have stated that (first full paragraph, paper # 8):

"At the time of filing of this application, the invention was already being sold to customers as part of a working software product." Applicants have not stated when the cited versions were on sale.

16. Claims 1-26 and 30-35 are rejected under 35 U.S.C. 102(b) based upon a public use or sale of the invention. Applicants have stated that (first full paragraph, paper # 8):

"At the time of filing of this application, the invention was already being sold to customers as part of a working software product." Applicants have not stated when the cited versions were on sale and whether the listed inventors are responsible for the cited versions of the working software product.

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17. Claims 1-26 and 30-35 are rejected under 35 U.S.C. 102(f) as being clearly anticipated by STK version 3.0 or STK version 4.0.5 or "Sensor Obscuration Tool (STK/Advanced VO)".

Applicants have stated that (first full paragraph, paper # 8):

"At the time of filing of this application, the invention was already being sold to customers as part of a working software product."

- However, Applicants have not stated whether the listed inventors are responsible for the cited versions of the working software product.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. The factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or unobviousness.

20. Claim 1-26, 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Claffey et al. (5,864,489 - of record) in view of Applicant's Own Admission *or* (Blank *or* Cok) in view of Applicant's Own Admission.

21. Claffey et al. disclose *a three-dimensional visualization wherein the general concept of how to carry out object selection is taught (col. 3, lines 54-59); how to assign a color to selected relevant objects, while another color is assigned to irrelevant objects and background (col. 3, lines 49-55).* Claffey et al. further disclose a method and apparatus for modeling the exposure of spacecraft-mounted solar power panels to the sun over a given time interval, such as an orbit period, and a method and apparatus for modeling the drag of spacecraft over a given time interval, such as an orbit period. The result of the exposure modeling can be used to determine varying availability of electrical power for operations to be performed by the spacecraft and on-board apparatus. The results of the drag over time are used to predict orbit decay and fuel requirements for orbit maintenance and station-keeping. *The invention uses a graphically based satellite systems analysis program to approximate exposure and drag data through visual projection of the relevant spacecraft elements on a computer display screen.*

22. Claffey et al. does not disclose calculation of sensor obscuration.

23. Applicants have admitted (page 2, lines 17-23 - specification) that calculation of sensor obscuration is known prior art; that persons having ordinary skill in the relevant art would have

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well understood the arbitrary nature of colors of representation (pp. 5-6, Declaration - paper # 6), and that (lines 4-8, page 5 - Declaration): *"I observe that the '489 patent discloses a three-dimensional visualization wherein the general concept of how to carry out object selection is taught (albeit for different purposes than in the '760 application). See the '489 patent at col. 3, lines 54-59."*

24. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Claffey et al. to incorporate the teaching of sensor obscuration so as to increase the apparent sensor resolution and field of view of a satellite sensor by deleting obscuring objects.

25. Cok discloses a method and system that *obscures image features in a region of interest designated by a user*. An operator designates a special shaped region of interest and a computer convolves a specially designed kernel with the image data in the region. The kernel is designed to pull features outside the region into the region while combining the information within the region with the information pulled from outside. The kernel can be designed to correspond to the shape of the region for efficient computation. Once the region of interest is obscured the image is printed resulting in a print that *does not include undesirable features*. See col. 3-4; col. 6.

26. Blank discloses a system and method for editing digital images in three dimensions includes a computer for storing a digital image of an object and a background, as well as at least one additional background image. Based upon the difference between the hues of the edge of the object and the surrounding background and a predetermined hue difference, the computer locates

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the edge of the object and removes portions of the image (i.e., the background) that are outside the edge. Then, the object can be combined with a preselected one of the other background images so as to form a composite image. Components of the preselected background image are assigned relative positions in the X-Y plane, and are also assigned a value defining their location in one of a plurality of layers which form the Z dimension of the image. The object to be combined with the background is also assigned a value defining its location in at least one of those layers. In another embodiment of the invention, colors of either a digital or video image can be selectively assigned to a mask. The colors can be of the entire image or from a selected area of the image. Color manipulation can then be performed on just the colors of the image defined by the mask. The mask may be used with the entire image, with a selected area of the image, or with objects. Alternatively, the colors of the image defined by an inverted mask are affected by color manipulation. See fig. 4-5, 8-9, 12-15, 21-23 and corresponding text.

27. Blank or Cok teach image editing including calculation of obscuration by selected objects, but do not disclose obscuration calculations *for use* on satellite sensors.

28. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Blank or Cok to incorporate the teaching of sensor obscuration because Applicants have admitted (page 2, lines 17-23 - specification) that calculation of sensor obscuration is known prior art; that persons having ordinary skill in the relevant art would have well understood the arbitrary nature of colors of representation (pp. 5-6, Declaration - paper # 6). Furthermore, Applying the teachings of Blank or Cok to Satellite sensor obscuration amounts to

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mere intended use of the teaching of Blank or Cok. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Blank or Cok to incorporate the teaching of sensor obscuration so as to increase the apparent sensor resolution and field of view of a satellite sensor by deleting obscuring objects.

Response to Argument

29. Applicant's arguments filed 6/28/2002 (paper # 4 - treated as a request for reconsideration), 6/28/2002 (paper # 6 - Declaration) and 6/28/2002 (paper # 8 - amendment and arguments) have been fully considered but they are not persuasive.
30. The present office action is made non-final in response to Applicant's arguments in paper # 4 and because a requirement for information under 37 C.F.R. 1.105 has been made. However, Applicant's assertion (page 2, paper # 4) that the application complies with the requirements of 35 U.S.C. 112, first paragraph, is not persuasive.
31. A few remarks are in order as they relate to the interview (paper # 5). During the interview, Applicant's Representative asked the Examiner why he was accusing the Representative of fraud. The Examiner stated that he had not accused the Representative of fraud and that there was no such intention on the part of the Examiner. The Representative referred to paragraphs 2-3 of paper # 3 (Information Disclosure Statement) to support his argument. The Examiner explained that the requested material appeared to be especially relevant to the claimed invention because it was incorporated by reference and was owned by the assignee. Applicants

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are silent in paper # 8 in response to this request for information. Please note that the request under 37 C.F.R. 1.56 has been buttressed with a requirement under 35 U.S.C. 1.105 (Requirement for information). Applicant's Representative also asked the Examiner numerous times, during the interview, whether the test for enablement was the number of pages in the specification. In response, the Examiner recited the 112(1) rejections *verbatim* from paper # 3.

32. Applicant's arguments (pg. 21, paper # 8) that the material is non-essential is conclusory and based on circular reasoning. Applicants are reminded that argument does not replace evidence where evidence is necessary. Attorney argument is not evidence unless it is an admission, in which case, an examiner may use the admission in making a rejection. See MPEP § 2129 and § 2144.03 for a discussion of admissions as prior art. The arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) ("An assertion of what seems to follow from common experience is just attorney argument and not the kind of factual evidence that is required to rebut a prima facie case of obviousness."). See MPEP § 716.01(c) for examples of attorney statements which are not evidence and which must be supported by an appropriate affidavit or declaration. Applicants also demur that submission of the incorporated material would not appear to be "probative" of the enablement issue but fail to explain why. The Examiner maintains that such submission is indeed probative and refers Applicants to MPEP section 2164.01(a) (Undo Experimentation Factors). Applicants also refer to the Declaration in support of their arguments.

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33. The Examiner has carefully considered the arguments in the Declaration (paper # 6) but they are not persuasive. In general, the Declaration refers to only 2-3 lines in various sections of the application. The Examiner has carefully considered the indicated material but is not persuaded. This is insufficient detail. At the same time the Declaration refers to numerous pages in the two STK manuals which are not of record.

34. It is noted that the Declaration relies, in part, upon the STK User's Manual: Versions 3.0 and 4.0.5 (page 3 and especially page 6 - beginning at line 2). However, the manuals have not been supplied to the Examiner. Applicants are reminded that the Examiner specifically requested the following non-patent literature reference which was listed in the specification (page 9, lines 21-23): Satellite Took (sic) Kit systems analysis program, cert. Nos. TX4-819-009, TX4-819-010 and TX4-819-011. The Examiner also reminded Applicants during the interview that the documents were considered relevant. Applicants are silent in their response (page 21, paper # 8). Therefore, any arguments which rely upon the STK manuals are conclusory and can not be further considered. Applicants are again encouraged to supply all relevant documentation pertaining to the STK manuals. In any case, please note the 37 C.F.R. 1.105 requirement.

35. As stated in MPEP section 2164.05 (Determination of Enablement Based on Evidence as a Whole):

“Once the examiner has weighed all the evidence and established a reasonable basis to question the enablement provided for the claimed invention, the burden falls on applicant to present persuasive arguments, supported by suitable proofs where necessary, that one skilled in the art would be able to make and use the claimed invention using the application as a guide. In re Brandstadter,

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484 F.2d 1395, 1406-07, 179 USPQ 286, 294 (CCPA 1973). The evidence provided by applicant need not be conclusive but merely convincing to one skilled in the art.

Applicant may submit factual affidavits under 37 CFR 1.132 or cite references to show what one skilled in the art knew at the time of filing the application. A declaration or affidavit is, itself, evidence that must be considered. The weight to give a declaration or affidavit will depend upon the amount of factual evidence the declaration or affidavit contains to support the conclusion of enablement. In re Buchner, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991) (“expert’s opinion on the ultimate legal conclusion must be supported by something more than a conclusory statement”); cf. In re Alton, 76 F.3d 1168, 1174, 37 USPQ2d 1578, 1583 (Fed. Cir. 1996) (declarations relating to the written description requirement should have been considered).

Applicant should be encouraged to provide any evidence to demonstrate that the disclosure enables the claimed invention. In chemical and biotechnical applications, evidence actually submitted to the FDA to obtain approval for clinical trials may be submitted. However, considerations made by the FDA for approving clinical trials are different from those made by the PTO in determining whether a claim is enabled. See Scott v. Finney, 34 F.3d 1058, 1063, 32 USPQ2d 1115, 1120 (Fed. Cir. 1994) (“Testing for full safety and effectiveness of a prosthetic device is more properly left to the [FDA].”). Once that evidence is submitted, it must be weighed with all other evidence according to the standards set forth above so as to reach a determination as to whether the disclosure enables the claimed invention.

To overcome a prima facie case of lack of enablement, applicant must demonstrate by argument and/or evidence that the disclosure, as filed, would have enabled the claimed invention for one skilled in the art at the time of filing. This does not preclude applicant from providing a declaration after the filing date which demonstrates that the claimed invention works. However, the examiner should carefully compare the steps, materials, and conditions used in the experiments of the declaration with those disclosed in the application to make sure that they are commensurate in scope; i.e., that the experiments used the guidance in the specification as filed and what was well known to one of skill in the art. Such a showing also must be commensurate with the scope of the claimed invention, i.e., must bear a reasonable correlation to the scope of the claimed invention. The examiner must then weigh all the evidence before him or her, including the specification and any new evidence supplied by applicant with the evidence and/or sound scientific reasoning previously presented in the rejection and decide whether the claimed invention is enabled. The examiner should

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never make the determination based on personal opinion. The determination should always be based on the weight of all the evidence.”

36. Applicants are again encouraged to supply all relevant documentation pertaining to the STK manuals. In any case, please note the 37 C.F.R. 1.105 requirement.

37. Applicant’s arguments (pp. 22-23, paper # 8) relating to the written description requirement are not persuasive. Applicants have not submitted the requested documents relating to the “working software program”, although this was specifically requested from Applicants. The issue of public use or on sale activity has been raised by Applicants in this application (page 3, paper # 6; page 23, paper # 8). However, Applicants demur in the request for the *existing working example* (MPEP section 2164.01(a) (Undo Experimentation Factors)) Furthermore, in order for the examiner to properly consider patentability of the claimed invention under 35 U.S.C. 102(b), additional information regarding this issue is required as explained in the attachment to this Official Office Action which lists the requirements for information under C.F.R. 1.105. Applicants are reminded that argument does not replace evidence where evidence is necessary. Attorney argument is not evidence unless it is an admission, in which case, an examiner may use the admission in making a rejection. See MPEP § 2129 and § 2144.03 for a discussion of admissions as prior art. The arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) (“An assertion of what seems to follow from common experience is just attorney argument and not the kind of factual evidence that is required

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to rebut a prima facie case of obviousness.”). See MPEP § 716.01(c) for examples of attorney statements which are not evidence and which must be supported by an appropriate affidavit or declaration.

38. Applicant’s arguments (pp. 23-24, paper # 8) relating to the enablement requirement are not persuasive. Applicants are correct that it is *undue experimentation* that is the critical issue, *as the Examiner explained to Applicants during the interview*. Applicant’s basic argument is that the Declaration resolves any questions of enablement. However, as explained earlier, the Examiner has carefully considered the arguments in the Declaration (paper # 6) but they are not persuasive. In general, the Declaration refers to only 2-3 lines in various sections of the application. The Examiner has carefully considered the indicated material but is not persuaded. This is insufficient detail. At the same time the Declaration refers to numerous pages in the two STK manuals which are not of record. It is noted that the Declaration relies, in part, upon the STK User’s Manual: Versions 3.0 and 4.0.5 (page 3 and especially page 6 - beginning at line 2). However, the manuals have not been supplied to the Examiner. Applicants are reminded that the Examiner specifically requested the following non-patent literature reference which was listed in the specification (page 9, lines 21-23): Satellite Took (sic) Kit systems analysis program, cert. Nos. TX4-819-009, TX4-819-010 and TX4-819-011. The Examiner also reminded Applicants during the interview that the documents were considered relevant. Applicants are silent in their response (page 21, paper # 8). Therefore, any arguments which rely upon the STK manuals are conclusory and will not be further considered.

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39. Applicant's arguments (pg. 22, paper # 8) pertaining to claims 19-22 and 101 rejections are not persuasive. Applicants have not provided any legal authority for their position. The Examiner respectfully maintains, that under current PTO practice, that claims 19-22 do not recite *either a tangible or a concrete result*. It is noted that code (i.e., a computer software program) does not do anything per se (*which is the defect in claims 19-22*). Instead, it is the code stored on a computer that, *when executed*, instructs the computer to perform various functions. The following claim is a generic example of a proper computer program product claim;

A computer program product embodied on a computer-readable medium and comprising code *that, when executed*, causes a computer to perform the following:

Function A

Function B

Function C, etc...

It is suggested that Applicants rephrase the preamble to recite "...computer program product" or "Signal bearing medium" "*embodying a program of instructions that when executed by the machine cause the machine to perform...*" or some similar phraseology.

40. The arguments in Section H are moot in view of this Office Action. However, please note that the 112(1) rejections are outstanding.

Examiner's Recommendation

41. The 112(1) issues can be traversed as follows:

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1) supply the required documents (as per 37 C.F.R. 1.105) so that the Examiner may review the documents (and to ensure that said documents do not qualify as prior art);

2) Amend the specification to include the previously incorporated material. The amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

Conclusion

42. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

1) ***STK/Visualization Option*** - (STK/VO) is the leading 3D visualization package for the space industry. While STK/VO provides the backbone for performing all of the necessary 3D rendering for the STK product suite, STK/Advanced VO empowers users with advanced visualization and output optimization.

Key Features

Complete 3D rendering of the STK Product Suite. STK/Advanced VO includes all of the STK/VO functionality and features.

High-resolution output images. STK/Advanced VO allows users to capture individual frames of output at any user specified dimension and resolutions up to 600 dpi for professional quality images for almost any application. Additional output enhancements within

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STK/Advanced VO include daylight/blue sky modeling, specular Earth modeling and anti-aliasing for super-crisp satellite models and imagery borders.

Viewpath Editor for studio-quality animations and video productions. While STK/VO gives you the capability to create and save time-dependent viewer positions and directions and capture sequential STK/VO frames for assembly into animations and/or video production, STK/Advanced VO further enhances your playback capabilities by providing the viewpath editor which provides the user a "flying camera" for dramatic recording effects. Users can specify camera locations and effective rates of change of viewing locations by time-tagged camera locations. The camera can be set to follow any object within the STK/Advanced VO scenario and transitions from individual recording sequences are automatically calculated within STK/Advanced VO. Once you have completed the viewpath, it can be animated forward and backward to test acceptance prior to recording the desired frames. These frames of VO images can be made into AVIs, GIFs, or JPGs using most commercial image-editing packages. STK/VO and STK/Advanced VO animations can be used separately or embedded in documents, for high-quality presentations to executives/investors/customers.

Terrain visualization. Allows you to visually display, in 3D, detailed terrain data as you maneuver a "fly-through" sequence with dynamic updating of the terrain resolution as it approaches your field of view. STK/Advanced VO is capable of visualizing varied formats of terrain data - including MUSE raster file (.dte), Digital Elevation Model (.dem), NIMA terrain (.dmed) and AGI World Terrain (STK/Terrain). Combining terrain visualization with high-resolution imagery data will provide the ultimate in realism and situational awareness for your theater operations, executive presentations, or launch visualizations.

Solar panel power. Knowing a satellite's available power is critical to aerospace systems designers and planners. Using AGI-patented graphical techniques, STK/Advanced VO can calculate over time the power that a satellite's solar panels generate, the sunlight's angle of incidence against the solar panels, and the cross-sectional area exposed to the sunlight. In

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addition to the Earth's penumbra and umbra, the calculation also accounts for shadows that the satellite's components cast on its solar panels.

Sensor obscuration. Using AGI-patented graphical techniques, STK/Advanced VO can calculate over time the percentage that a sensor's field-of-view is obscured. The sensor can be obscured by the system on which the sensor resides, other systems, or the Earth (including terrain).

Interplanetary mission visualization. Allows users to select central-body with texture map for all planets of the solar-system to provide stunning 3D views of the solar system for science voyages.

- Note the 17 pages (as numbered by the Examiner) of printouts as obtained from www.stk.com.

2) ***Nelson*** discloses a system for detecting an object of interest through a medium such as the atmosphere or ocean employs a reference object from which a reference signal emanates. A detector detects and transforms the reference signal into a transformed reference signal and further detects and transforms an object signal emanating from an object of interest into a transformed object signal. The object signal may be radiated, re-radiated, or scattered from the object of interest. An image processor generates a corrected image signal by applying an image transfer function to convolve the transformed object signal. Then a display presents a corrected image of the object of interest in response to receiving the corrected image signal.

3) ***Steinle et al.*** disclose a photosensor device which comprises a first photosensor array having a first predetermined number of pixels for generating a first data signal indicative of a first color component image of an object which is imaged thereon; a second photosensor array having a second predetermined number of pixels for generating a second data signal indicative of a second color component image of the object which is imaged thereon; and color registration error correction means operatively associated with the photosensor array for correcting color registration error due to a predetermined difference in image size between the first color component image and the second color component image.

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4) Landecker et al. disclose a surveying satellite apparatus having an on-board microprocessor to process sensor-provided data from planetary and/or celestial reference scene. The sensor data is compared with the on-board spacecraft database to determine if any misorientation or translation error is present. The spacecraft attitude and ephemeris solutions are autonomously updated to reflect the realtime alignment.

5) Itoh et al. disclose an apparatus for separately extracting circular and linear components in a complex image, the apparatus comprising: (a) a circular filter means for covering a portion of the complex image by filter blocks, wherein the filter blocks comprise a center block and at least one set of blocks angularly disposed to encircle the center block; (b) a first calculator element for computing average image concentration value for each of a plurality of directions with said circular filter means covering a subject portion of the complex image, wherein the concentration value for one directional component is a maximum; (c) a second calculator element for computing a first feature S in which the values of the directional components are evaluated with maximum directional component being enhanced; (d) a third calculator element for computing a second feature value S' in which the values of the directional components are evaluated with the maximum directional component being weakened; and (e) a mode selector for selectively applying (i) the first feature value S to detect linear image components and (ii) the second feature value S' to detect circular image components.

6) Landecker (U. S. Patent 4,679,753) discloses a system for surveying features of a planet includes a novel attitude determination subsystem. A satellite includes an earth imaging sensor (106). The sensor is alternately directed at the earth and a predetermined star field. The optical detections are converted to electronic signals by a sensor electronics module (332). The outputs of the sensor electronics module corresponding to the times when the sensor is directed toward earth are processed by a signal processor (336), the output of which is a data stream which permits image reconstruction by a ground station computer. The outputs of the sensor electronics module corresponding to the times when the sensor is directed toward the star field

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are directed through onboard star detection thresholding electronics. A programmable threshold device (342) selects detections of target stars within the star field. A star data buffer (344) stores these target star detections for transmission to earth at a convenient time. This data stored by the buffer is compact star attitude determination data required for accurate gridding of the earth image data transmitted from the signal processor. In an alternative embodiment, an earth imaging sensor is occasionally pointed at a limited portion of the star field, such special motion being controlled from the satellite. In both embodiments, compression of star field data is accomplished by means located onboard the satellite. The compressed star field data is subsequently used to accurately determine sensor attitude.

7) *three pages of results of a copyright search* of TX-4-819-???

43. Any inquiry concerning this communication or earlier communications from the examiner should be:


directed to: Dr. Hugh Jones telephone number (703) 305-0023, Monday-Thursday 0830 to 0700 ET, *or* the examiner's supervisor, Kevin Teska, telephone number (703) 305-9704. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, telephone number (703) 305-3900.

mailed to: Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to: (703) 308-9051 (for formal communications intended for entry) *or*
(703) 308-1396 (for informal or draft communications, please label "*PROPOSED*" or "*DRAFT*").

Dr. Hugh Jones

October 16, 2002


HUGH JONES Ph.D.
PRIMARY PATENT EXAMINER
TECHNOLOGY CENTER 2100

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DETAILED ACTION

Requirement for Information - 37 C.F.R. § 1.105

1. The following non-patent literature reference appears listed in the original specification (page 9, lines 21-23): Satellite Took (sic) Kit systems analysis program, cert. Nos. TX4-819-009, TX4-819-010 and TX4-819-011. The text accompanying the reference provides a short description which indicates that the listed reference, *which Applicants have attempted to incorporate and now attempt to delete*, is very relevant and appears to be *essential* to the instant invention and claims, and therefore the applicant should provide the office with copies of the references so that they may further be evaluated for relevance. The Examiner has also been made aware of "Sensor Obscuration Tool (STK/Advanced VO)" - of record (see paper # 3) which appears to disclose the claimed invention.

2. The Declaration refers to numerous pages in two STK manuals which are not of record. It is noted that the Declaration relies, in part, upon the STK User's Manual: Versions 3.0 and 4.0.5 (page 3 and especially page 6 - beginning at line 2 - paper # 6). However, the manuals have not been supplied to the Examiner. Applicants are reminded that the Examiner specifically requested the following non-patent literature reference which was listed in the specification (page 9, lines 21-23): Satellite Took (sic) Kit systems analysis program, cert. Nos. TX4-819-009, TX4-819-010 and TX4-819-011. The Examiner also reminded Applicants during the interview that the documents were considered relevant. Applicants are silent in response (paper # 8).

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3. As stated in MPEP section 2164.05 (Determination of Enablement Based on Evidence as a Whole):

“Once the examiner has weighed all the evidence and established a reasonable basis to question the enablement provided for the claimed invention, the burden falls on applicant to present persuasive arguments, supported by suitable proofs where necessary, that one skilled in the art would be able to make and use the claimed invention using the application as a guide. In re Brandstadter, 484 F.2d 1395, 1406-07, 179 USPQ 286, 294 (CCPA 1973). The evidence provided by applicant need not be conclusive but merely convincing to one skilled in the art.

Applicant may submit factual affidavits under 37 CFR 1.132 or cite references to show what one skilled in the art knew at the time of filing the application. A declaration or affidavit is, itself, evidence that must be considered. The weight to give a declaration or affidavit will depend upon the amount of factual evidence the declaration or affidavit contains to support the conclusion of enablement. In re Buchner, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991) (“expert’s opinion on the ultimate legal conclusion must be supported by something more than a conclusory statement”); cf. In re Alton, 76 F.3d 1168, 1174, 37 USPQ2d 1578, 1583 (Fed. Cir. 1996) (declarations relating to the written description requirement should have been considered).

Applicant should be encouraged to provide any evidence to demonstrate that the disclosure enables the claimed invention. In chemical and biotechnical applications, evidence actually submitted to the FDA to obtain approval for clinical trials may be submitted. However, considerations made by the FDA for approving clinical trials are different from those made by the PTO in determining whether a claim is enabled. See Scott v. Finney, 34 F.3d 1058, 1063, 32 USPQ2d 1115, 1120 (Fed. Cir. 1994) (“Testing for full safety and effectiveness of a prosthetic device is more properly left to the [FDA].”). Once that evidence is submitted, it must be weighed with all other evidence according to the standards set forth above so as to reach a determination as to whether the disclosure enables the claimed invention.

To overcome a prima facie case of lack of enablement, applicant must demonstrate by argument and/or evidence that the disclosure, as filed, would have enabled the claimed invention for one skilled in the art at the time of filing. This does not preclude applicant from providing a declaration after the filing date which demonstrates that the claimed invention works. However, the examiner should carefully compare the steps, materials, and conditions used in the experiments of the declaration with those disclosed in the application to make sure that they are commensurate in scope;

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i.e., that the experiments used the guidance in the specification as filed and what was well known to one of skill in the art. Such a showing also must be commensurate with the scope of the claimed invention, i.e., must bear a reasonable correlation to the scope of the claimed invention. The examiner must then weigh all the evidence before him or her, including the specification and any new evidence supplied by applicant with the evidence and/or sound scientific reasoning previously presented in the rejection and decide whether the claimed invention is enabled. The examiner should never make the determination based on personal opinion. The determination should always be based on the weight of all the evidence.”

4. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.

- Satellite Tool Kit systems analysis program, cert. Nos. TX4-819-009, TX4-819-010 and TX4-819-011.

- STK User's Manual: Versions 3.0 and 4.0.5.

- “Sensor Obscuration Tool (STK/Advanced VO)”

5. An issue of public use or on sale activity has been raised in this application (page 3, paper # 6; page 23, paper # 8). In order for the examiner to properly consider patentability of the claimed invention under 35 U.S.C. 102(b), additional information regarding this issue is required as follows:

- Satellite Tool Kit systems analysis program, cert. Nos. TX4-819-009, TX4-819-010 and TX4-819-011.

- STK User's Manual: Versions 3.0 and 4.0.5.

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- “Sensor Obscuration Tool (STK/Advanced VO)”

6. In response to this requirement, please provide the names of any products or services that have incorporated the claimed subject matter.

7. The fee and certification requirements of 37 CFR 1.97 are waived for those documents submitted in reply to this requirement. This waiver extends only to those documents within the scope of this requirement under 37 CFR 1.105 that are included in the applicant's first complete communication responding to this requirement. Any supplemental replies subsequent to the first communication responding to this requirement and any information disclosures beyond the scope of this requirement under 37 CFR 1.105 are subject to the fee and certification requirements of 37 CFR 1.97.

8. The applicant is reminded that the reply to this requirement must be made with candor and good faith under 37 CFR 1.56. Where the applicant does not have or cannot readily obtain an item of required information, a statement that the item is unknown or cannot be readily obtained will be accepted as a complete reply to the requirement for that item. Applicants are reminded that they have referred to the material in the specification and have relied upon the material in a declaration in order to attempt to traverse 112(1) rejections.

9. This requirement is an attachment of the enclosed Office action. A complete reply to the enclosed Office action must include a complete reply to this requirement. The time period for reply to this requirement coincides with the time period for reply to the enclosed Office action.

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10. Any inquiry concerning this communication or earlier communications from the examiner should be:

directed to: Dr. Hugh Jones telephone number (703) 305-0023, Monday-Thursday 0830 to 0700 ET, *or* the examiner's supervisor, Kevin Teska, telephone number (703) 305-9704. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, telephone number (703) 305-3900.


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or faxed to: (703) 308-9051 (for formal communications intended for entry) *or*
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or "*DRAFT*").

Dr. Hugh Jones

October 16, 2002


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